

A brief history of peer-reviewed mountain journals: how platforms for knowledge relevant to sustainable mountain development emerged

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Abstract

Dedicated academic mountain journals emerged as of the beginning of the 20th century from a need to collect very diverse work focusing on mountains as a fascinating and challenging environment as well as a place of unique livelihood systems. We present a brief overview of the four peer-reviewed, indexed journals that exist today for mountain scholarship and show how strongly connected they are with an understanding of science linked to sustainable development. This specificity is confirmed by the fact that – as of the 1970s – a number of leading mountain scholars from around the world started engaging not only in research but also in policy action to ensure that mountains and mountain development are taken into account in key global sustainable development documents.

What has been the added value of mountain journals and what was the motivation for launching them? On the occasion of *eco.mont*'s tenth anniversary, the editors of the journal *Mountain Research and Development* were asked to tell the story of mountain journals. The story starts with the *Revue de géographie alpine*, launched by the French geographer Raoul Blanchard in 1913 with the double aim of bringing together work on the European Alps (and on the French Alps in particular) and making it accessible to a broader scientific public (RGA 1913). Publication of mountain research in specifically dedicated journals thus began as a European geographer's concern with a fascinating and often challenging environment in which human communities had developed well-adapted and often unique livelihood systems and cultures. This concern with both environmental and developmental issues, along with a recognition of the need to make research relevant to society, has been a key characteristic of mountain journals, of which the following are the main indexed ones published in English: *Journal of Alpine Research / Revue de géographie alpine* (JAR-RGA); *Mountain Research and Development* (MRD); *Journal of Mountain Science* (JMS); and the now ten-year-old *eco.mont*. Here is their story in a nutshell.

Journal of Alpine Research / Revue de géographie alpine (JAR-RGA)

Published since its inception by the Institut de Géographie Alpine at the University of Grenoble, France, JAR-RGA became a bilingual journal in 2004. The focus remained the Alpine Arc in Europe until 2012, with occasional articles on other mountain regions worldwide included in focus issues to enable a comparative perspective on mountain issues. On the occasion of the journal's one-hundredth anniversary in 2013, JAR-RGA's editors decided to go open access and make English the first language of articles. They also decided to publish translations into other European Alpine languages – French, German, Italian, and

Spanish – with a view to “*opening French-language thinking to the world even more*” (JAR-RGA 2018). Authors' affiliations are now thoroughly international and the quarterly issues cover a remarkable variety of topics and concerns, often in thematic issues.

Mountain Research and Development (MRD)

In the early 1970s, a large group of scientists from several countries involved in UNESCO's innovative interdisciplinary Man and the Biosphere program – most of them geographers as well – joined efforts to organize international conferences focusing on environmental concerns in mountains that are of significance also to lowland communities (Ives 1981). The focus on mountains, highland-lowland interactions, and development in mountains thus became a worldwide scientific concern in the context of the nascent global sustainable development debate. MRD emerged from this international research collaboration with a development concern in 1981. MRD's founding editor Jack Ives declared: “*The challenge to influence mountain management by urging, and providing, a sound scientific base for decision making lies at the heart of our purpose – to seek a better balance between mountain environments, human welfare, and development of resources*” (Ives 1981, p. 4). From the beginning, MRD was distributed free of charge in developing countries (Ives 1990). Mountain scientists' development concerns also translated into a joint effort with development and policy actors to ensure that Chapter 13 was included in Agenda 21 by 1992 (Mathieu 2011; Messerli 2012; Price 2015).

To address salient societal issues, in 2000 MRD launched a new section presenting *transformation knowledge*, with articles targeting a much broader audience including decision- and policy-makers. It was later enhanced by a double-blind peer review process – pioneering what is now being internationally called for (Future Earth 2014): *transformation knowledge* as key for sustainable development. The established academic section offering mainly *systems knowledge* also now at-

tracted and supported more authors from the global South; and as of 2009, MRD went open access, as a means of making scientific knowledge and development debates entirely accessible to the South. In 2013, then-editors-in-chief Hans Hurni (CDE, University of Bern) and David Molden (ICIMOD) launched a third peer-reviewed section presenting *target knowledge* (Hurni et al. 2013). Thus, the journal now offered all three dimensions of knowledge for sustainable mountain development.

eco.mont – Journal on Protected Mountain Areas Research and Management

The need for linking science and practice is also what drove the launching in 2008 of *eco.mont – Journal on Protected Mountain Areas Research and Management*, published open access twice a year. Representing a vibrant European scientific community concerned with the future of mountains, founding editors Axel Borsdorf (University of Innsbruck) and Günter Köck (Austrian Academy of Sciences) aimed to offer “a platform specifically for scientists and practitioners working in and on protected mountain areas in Europe and overseas”, calling for papers from both the academic and practice communities. *eco.mont* has succeeded in publishing an impressively large number of articles despite the comparatively narrow definition of its scope – arguably a sign of the importance of mountains in efforts to achieve SDG 15 of the 2030 Agenda, i.e. to conserve our natural environment while offering new development options to humanity. This mountain journal thus also reveals a strong commitment to disseminating knowledge for sustainable mountain development, and to using adequate modes of enhancing this knowledge through rigorous review that takes into account interdisciplinary and transdisciplinary approaches (Borsdorf & Köck 2008).

Journal of Mountain Science (JMS)

Meanwhile, on the other side of the earth, in China, research on mountain environments and mountain development had obviously also become a strong concern. In 2004, JMS was launched by the Institute of Mountain Hazards and Environment, Chinese Academy of Sciences, with the explicit aim of enhancing international academic exchange on mountain research and integrating Chinese research into the global debate. The journal is not open access but subscriptions are supported in developing countries by the United Nations University. The journal started as a quarterly from 2004 until 2010, then published six issues a year until 2015, and since then has been appearing as a monthly journal. Its objective to publish research and technical papers on mountain environment, mountain ecology, mountain hazards, mountain resources, and mountain development, with a clear predominance of disciplinary papers, reveals a different understanding of science for sustainable development, with less emphasis on transdisciplinarity and transformative science than MRD and *eco.mont*.

It is thus obvious that sustainable mountain development matters to scientists worldwide. Clearly, English has become the *lingua franca* of their work – whether for better or for worse is not something to be debated here. This led several national and regional mountain research communities to decide to publish their work in English. The most recent case is that of the Russian journal *Sustainable Development in Mountain Territories*, launched by the North Caucasian Institute of Mining and Metallurgy (State Technological University) as a quarterly in 2009: it is now seeking ways of making key articles in Russian become available to an English-speaking audience, while also translating selected articles from MRD for its Russian scientific readership.

As a final note, in addition to consulting mountain journals (Table 1), readers looking for work relevant to mountains and mountain development will certainly also find articles in disciplinary journals explicitly or not explicitly devoted to mountains (Körner 2009; Sarmiento & Butler 2011). These journals have also been informing debates about mountain-specific challenges and dynamics. So what is the advantage of specific mountain journals? They bring together knowledge from different disciplines to strengthen the debate and the knowledge on mountain-specific challenges, also integrating the different views in one place. This integration and contextualization of knowledge is crucial for transformation towards sustainable development.

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Table 1 – Overview of indexed mountain journals with a global reach, in chronological order of their emergence. The last rows indicate two disciplinary journals that are highly relevant to mountains; admittedly, many more could be listed.

Title	Exists since	Weblink	Founding Editors	Editors-in-Chief	Publisher	Impact factor 2016	Open access?
Revue de géographie alpine; now Journal of Alpine Research / Revue de géographie alpine (JAR-RGA)	1913	http://journals.openedition.org/rga/	Raoul Blanchard, University of Grenoble	Dominique Baud, Grenoble Alpes University, Sylvie Duvillard, Grenoble Alpes University, Coralie Mounett, Grenoble Alpes University	OpenEdition for Association pour la Diffusion de la Recherche Alpine (ADRA)	0.365	Yes
Mountain Research and Development (MRD)	1981	http://www.mrd-journal.org/	Jack Ives, Institute of Arctic and Alpine Research, University of Colorado Boulder	Thomas Brev, Centre for Development and Environment, University of Bern, David Molden, Integrated Centre for International Mountain Development (ICIMOD)	BioOne for International Mountain Society (IMS)	1.149	Yes
Journal of Mountain Science	2004	http://www.springer.com/earth+sciences+and+geography/journal/11629	Peng Cui, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences (CAS)	Peng Cui, Institute of Mountain Hazards and Environment, CAS	Springer and Science Press China for Institute of Mountain Hazards and Environment, CAS	1.016	No
eco.mont – Journal on Protected Mountain Areas Research and Management	2008	ecomont.mountainresearch.at	Axel Borsdorf, Institute of Geography, University of Innsbruck, Günter Köck, Austrian Academy of Sciences (ÖAW)	Valerie Braun, Institute for Interdisciplinary Mountain Research ÖAW, Martin Coy, Institute of Geography, University of Innsbruck, Günter Köck, Institute for Interdisciplinary Mountain Research, ÖAW	Austrian Academy of Sciences and University of Innsbruck	0.333	Yes
Sustainable Development in Mountain Territories (in Russian)	2009	http://naukagor.ru/en-gb/	Vladimir S. Vagin, North Caucasian Institute of Mining and Metallurgy, State Technological University	Yuri V. Dmitrak, North Caucasian Institute of Mining and Metallurgy, State Technological University	North Caucasian Institute of Mining and Metallurgy, State Technological University	Application with SCOPUS in progress	Yes
Botanica helvetica (until 2010); Alpine Botany (since 2011)	1890	http://www.springer.com/life+sciences/plant+sciences/journal/35	Carl Schröter, ETH Zurich, Eduard Fischer, University of Bern	Jürg Stöcklin, Institute of Botany, University of Basel	Springer for Swiss Botanical Society	2.281	No
Arctic and Alpine Research (until 1998); Arctic, Antarctic and Alpine Research, an Interdisciplinary Journal (since 1999)	1969	http://aaarjournal.org/	Jack D. Ives, Institute of Arctic and Alpine Research, University of Colorado Boulder	William D. Bowman, Department of Ecology and Evolutionary Biology, University of Colorado Boulder, Anne E. Jennings, Department of Geological Sciences, University of Colorado Boulder	Taylor & Francis for Institute of Arctic and Alpine Research, University of Colorado Boulder	1.782	Yes, as of 2018